

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2001-086202

(43)Date of publication of application : 30.03.2001

(51)Int.Cl.

H04M 1/00
H04Q 7/38
H04M 1/03
H04M 1/05

(21)Application number : 11-256617

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(22)Date of filing : 10.09.1999

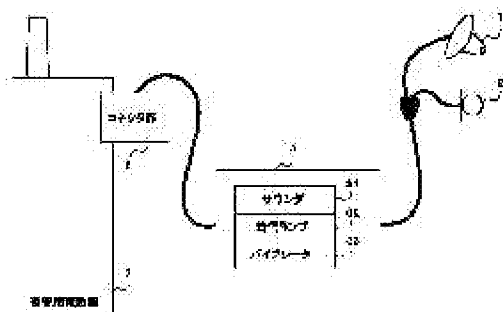
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(54) EAR MICROPHONE ASSEMBLY

(57)Abstract:

PROBLEM TO BE SOLVED: To surely recognize incoming state, even while an earphone is detached in a highly noisy state by providing a signal line with an incoming report unit for performing incoming reporting operation with one of or all of ringing light, emission and vibration according to a preset style of the incoming report operation.

SOLUTION: An incoming report unit 3 is provided with a sounder 31 attached in the middle of a cable for connecting an earphone 1 to be inserted into the ear, a microphone 2 and a connector part 6 for outputting an incoming tone, an incoming lamp 32 to be emitted or flickered at the time of incoming and a vibrator 33 to be vibrated at incoming. At incoming, an incoming signal is inputted from a portable telephone set 7 through the connector part 6 to the incoming report unit 3 and when this signal is detected, respective reporting means with turned-on changeover switches are operated. When the earphone 1 is inserted into the ear, since the incoming unit 3 is located around the breast, ringing or light emission can be recognized at a position close to the eye or ear.



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CLAIMS

[Claim(s)]

[Claim 1]It is an IYAMAiku assembly which is provided with an earphone and an earphone type microphone and is connected with a telephone set body via a signal wire, An IYAMAiku assembly equipping said signal wire with a mail arrival information unit which performs either or all the mail arrival informing operation of singing, luminescence, and vibration according to a mode of said set-up mail arrival informing operation when a mode of mail arrival informing operation is set up beforehand and a terminating signal is inputted.

[Claim 2]A detection means to be provided with an earphone and an earphone type microphone, to detect a terminating signal which is an IYAMAiku assembly connected with a telephone set body via a signal wire, and is inputted from a telephone set body, and to output a mail arrival reporting signal, If said mail arrival reporting signal is inputted as a setting-out means to set up a mode of mail arrival informing operation beforehand, An IYAMAiku assembly providing a mail arrival information unit which has a mail arrival informing means which performs either or all the mail arrival informing operation of singing, luminescence, and vibration according to a mode of said set-up mail arrival informing operation in said signal wire.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention]This invention can relate to the IYAMAiku assembly used for personal digital assistants, such as a portable telephone and PHS, especially can make mail arrival recognize certainly also in a high noise state, and relates to an IYAMAiku assembly applicable to a common portable telephone set.

[0002]

[Description of the Prior Art]The IYAMAiku assembly for the conventional personal digital assistants is provided with the earphone type microphone which acquires and outputs a transmitted signal from vibration of ****, and the earphone which outputs a receiver voice, and even if it does not hold a telephone set body by hand by connecting and using for the main part of a portable telephone set at the time of a telephone call, it ends.

[0003]When the IYAMAiku assembly is being used, in order that a user may recognize mail arrival by the ringer tone from an earphone, and the ringer tone from the sounder of a telephone set body, there is a user in the state which has always inserted the earphone in an ear in many cases.

[0004]However, since he felt displeasure at some persons keeping an earphone inserted, such a person removes and uses an earphone and was made to judge mail arrival by blink of the incoming lamp (LED) formed in the ringer tone and main part from a sounder of the telephone set body.

[0005]As an informing device of the separate type which reports the arrival in the conventional portable telephone set, there is open JP,9-84141,A "incoming call appearance device" (applicant: Casio Computer Co., Ltd., artificer:Kazunori Kita) on March 28, Heisei 9. The mail arrival reporting signal transmitter inserted in the earphone microphone terminal of a cellular phone detects a terminating signal, and this conventional technology creates a mail

arrival reporting signal, It transmits to a card shape arrival reporting signal receiver or a list-directed arrival reporting signal receiver on radio, and if each receiver receives this mail arrival reporting signal, vibration and a voice response buzzer will report mail arrival.

The arrival of a portable telephone can be reported certainly, without making others trouble.

[0006]

[Problem(s) to be Solved by the Invention]However, in the conventional IYAMAiku assembly. When there is no function to report mail arrival, in addition to the ringer tone from an earphone and the noise of a factory etc. removed and uses an earphone at a large place, The ringer tone from a sounder could not be heard easily, and when the telephone set body was put into the pocket or was carried on the waist, blink of the incoming lamp was not visible easily, either, and there was a problem that he might not notice mail arrival.

[0007]In the incoming call appearance device of the conventional separate type, there was a problem that the special mechanism for transmitting a signal was required for a separate type reporting part as parts linked to a telephone set body or telephone, and it was not a thing widely applicable to a common portable telephone set.

[0008]An object of this invention is to provide the IYAMAiku assembly which it succeeded in view of the above-mentioned actual condition, can be made to recognize mail arrival certainly even if it has removed the earphone in a high noise state, and can be applied to a common portable telephone set.

[0009]

[Means for Solving the Problem]This invention which solves a problem of the above-mentioned conventional example is provided with an earphone and an earphone type microphone, It is an IYAMAiku assembly connected with a telephone set body via a signal wire, When a mode of mail arrival informing operation is set up beforehand and a terminating signal is inputted, It is considered as an IYAMAiku assembly which equipped a signal wire with a mail arrival information unit which performs either or all the mail arrival informing operation of singing, luminescence, and vibration according to setting out, Even if a user is not always inserting an earphone in an ear under environment of high noise, mail arrival can be recognized easily and certainly, and even if mail arrival can be answered promptly, it can talk over the telephone and it does not have a mechanism still more nearly special to a telephone set body or required accessories, it can use for a common portable telephone set widely.

[0010]

[Embodiment of the Invention]It explains referring to drawings for an embodiment of the invention. If the function realizing means explained below is a means by which the function concerned is realizable, it may be what kind of circuit or a device, and can also realize a part or all of a function by software. Two or more circuits may realize a function realizing means, and

two or more function realizing means may be realized in a single circuit.

[0011]First, the generic concept of the IYAMAiku assembly concerning this invention is explained. The IYAMAiku assembly concerning this invention on the signal wire which connects an IYAMAiku assembly and a telephone set body, The mail arrival information unit which performs informing operation, such as singing, luminescence, and vibration, at the time of mail arrival is provided, Even if it is not always inserting the earphone in an ear under the environment of high noise, mail arrival can be made to be able to recognize certainly, and it can use widely with the common portable telephone set which is not provided with the still more nearly special mechanism.

[0012]Next, the middle concept of the IYAMAiku assembly concerning this invention is explained using a functional constitution means. The IYAMAiku assembly for personal digital assistants concerning an embodiment of the invention, It has a detection means to detect a terminating signal, and a mail arrival informing means which performs mail arrival informing operation of singing, luminescence, and vibration based on a terminating signal, In [if a detection means detects that the terminating signal was inputted from the main part of a portable telephone set and outputs a mail arrival reporting signal to a mail arrival informing means, the mail arrival informing means will be made to perform mail arrival informing operation, and] the environment of high noise, Even if it is not always inserting the earphone in an ear, mail arrival can be recognized certainly, and even if it does not have the still more nearly special mechanism as a telephone set body or required accessories, it can use for a common portable telephone set widely.

[0013]The appearance of the IYAMAiku assembly concerning an embodiment of the invention is explained using drawing 1. Drawing 1 is an explanatory view showing the mounting state of the IYAMAiku assembly concerning an embodiment of the invention, and this IYAMAiku assembly. As shown in drawing 1, the IYAMAiku assembly which this invention requires comprises the following:

The earphone 1 which outputs a receiver voice.

The microphone 2 which acquires a transmitted signal.

The mail arrival information unit 3 which reports mail arrival.

The connector area 6 which makes connection with the portable telephone set (telephone set body) 7 which is a main part.

[0014]Especially the mail arrival information unit 3 that is a characterizing portion of this device is provided with the following.

The earphone 1 and the microphone 2 inserted in an ear.

The sounder 31 which is attached in the middle of the cable which connects the connector area 6, and outputs a ringer tone.

The incoming lamp 32 which emits light or blinks at the time of mail arrival.

Vibrator 33 which vibrates at the time of mail arrival.

[0015]And informing operation will be performed, if a terminating signal is inputted into a mail arrival information unit via the connector area 6 from the portable telephone set (telephone set body) 7 and a mail arrival information unit detects a terminating signal at the time of mail arrival.

[0016]In this device, when a pocket or the waist is equipped with a main part and the earphone 1 and the microphone 2 are inserted in an ear, it is provided in the position where the mail arrival information unit 3 comes to the neighborhood of a breast exactly. The clip etc. are formed in the mail arrival information unit 3 so that it can fix to clothes etc. (not shown). And since it will not become the obstacle of work, either but singing and luminescence will be performed in the position near the organs of perception, such as eyes and an ear, at the time of operation of the information unit 3, for example if the information unit 3 is stopped with a clip etc. on the breast of a fatigue dress, mail arrival can be recognized easily.

[0017]Next, each component part of this device is explained using drawing 2. Drawing 2 is a configuration block figure of the IYAMAiku assembly concerning an embodiment of the invention. As shown in drawing 2, this device was provided with the earphone 1 which outputs a receiver voice, the microphone 2 which inputs a transmission sound, and the connector area 6 as the same portion as usual, and is provided with the mail arrival information unit 3 as a characterizing portion of this device.

[0018]Although the receiver signal line 11 sends out the input signal from a telephone set body to the earphone 1 as usual, it and identical signals are outputted to the primary detecting element 34. The transmitted signal line 12 sends out the audio signal inputted from the microphone 2 as usual to a telephone set body via the connector area 6.

[0019]The mail arrival information unit 3 which is a characterizing portion of this device, The sounder 31 and the incoming lamp 32 as an informing means which reports mail arrival, It has the primary detecting element 34 as a detection means, and each informing means is connected with changeover switch SW1 as a setting-out means which changes ON/OFF of each informing means to the vibrator 33, SW2, and SW3 via the changeover switch in the primary detecting element 34.

[0020]The primary detecting element 34 judges whether the signal inputted from the receiver signal line 11 is a terminating signal, if it is a terminating signal, will output a mail arrival reporting signal to changeover switch SW1, SW2, and SW3, and, in the case of signals other than terminating signals, such as a receiver voice, will not output.

[0021]Changeover switch SW1, SW2, and SW3 change ON/OFF of the sounder 31, the incoming lamp 32, and the vibrator 33, respectively, and a user changes them from the exterior

manually.

[0022]Next, operation of this device is explained using drawing 2. In this device, if a terminating signal is inputted into the receiver signal line 11 from a telephone set body via the connector area 6, a ringer tone will be outputted from the earphone 1. With it, a terminating signal is inputted into the primary detecting element 34, and if the primary detecting element 34 judges that an input signal is a terminating signal, it will output a mail arrival reporting signal to changeover switch SW1, SW2, and SW3.

[0023]And when the changeover switch is set to ON, a mail arrival reporting signal is inputted into each informing means connected to below, and each informing means operates. That is, if SW1 is ON, an informing sound will be outputted from the sounder 31, if SW2 is ON, the incoming lamp 32 will light up or blink, and if SW3 is ON, the vibrator 33 will vibrate. When the changeover switch is come by off, even if a mail arrival reporting signal is inputted, the informing means does not operate. Thus, at the time of mail arrival, by a user, the informing means set as ON performs informing operation, and reports mail arrival.

[0024]If according to the IYAMA I KU assembly concerning an embodiment of the invention the mail arrival information unit 3 is formed on the signal wire which connects a telephone set body, the earphone 1, and the microphone 2 and the primary detecting element 34 of the mail arrival information unit 3 detects a terminating signal, Since the informing means which outputs a mail arrival reporting signal to each informing means of the sounder 31, the incoming lamp 32, and the vibrator 33, and is set as ON is made to perform mail arrival informing operation, The user has removed the earphone, or even if noise is under large environment, mail arrival can be reported certainly, the user can recognize mail arrival easily, and it is effective in answering mail arrival promptly and being able to talk over the telephone.

[0025]According to this device, since he is trying for breasts, such as a fatigue dress, to stop the mail arrival information unit 3 with a clip, the mail arrival information unit 3 does not become the obstacle of work, but it can fix to the position which is easy to recognize mail arrival informing operation, and is effective in the ability to raise user-friendliness.

[0026]In this device, since the main part of a portable telephone set and the connection section with a portable telephone set are completely the same as usual, the mechanism special as the main part of a portable telephone set or required accessories is unnecessary, it can use for a common portable telephone set widely, and the effect mentioned above is acquired.

[0027]For example, if it has the contact button of an earphone type microphone also with the portable telephone set without a vibration function, by connecting and using this device for this contact button, it can have a vibration function and is effective in the ability to raise convenience.

[0028]Next, the IYAMA I KU assembly concerning another embodiment of this invention is explained using drawing 3. Drawing 3 is a configuration block figure showing the composition

of the IYAMAiku assembly (another device) concerning another embodiment of this invention. As shown in drawing 3, another device is the almost same composition as the IYAMAiku assembly mentioned above, but. It differs in that had the control line 13 as a line linked to a telephone set body in addition to the receiver signal line 11 and the transmitted signal line 12, and it has the setting-out selecting part 35 which performs the change of changeover switch SW1, SW2, and SW3. The setting-out means described by the claim is constituted from changeover switch SW1, SW2, SW3, and the setting-out selecting part 35 by another device. The IYAMAiku assembly control section 71 is formed in portable telephone set 7'.

[0029]In another device, ON/OFF of each informing means of an IYAMAiku assembly is set up in portable telephone set 7'. And the IYAMAiku assembly control section 71 memorizes the setting condition of each informing means of mail arrival information unit 3' set up from the key input section (not shown) of portable telephone set 7', and it outputs the control signal which changes ON/OFF of each informing means.

[0030]It is connected to the control line 13 and the selection setting part 35 of an IYAMAiku assembly changes ON/OFF of changeover switch SW1, SW2, and SW3 according to the control signal from the IYAMAiku assembly control section 71 of portable telephone set 7'.

[0031]That is, if the control signal which specifies an informing means and its ON/OFF via the control line 13 is inputted, he is trying for the selection setting part 35 to change the switch corresponding to the informing means this specified according to this control signal according to specification.

[0032]The operation at the time of the arrival in another IYAMAiku assembly is the same as that of the IYAMAiku assembly shown in drawing 2, If the primary detecting element 34 detects a terminating signal, a mail arrival reporting signal will be outputted to each switch, a signal is inputted into the informing means which corresponds if each changeover switch is ON, and informing operation is performed.

[0033]Since he is trying for the selection setting part 35 to change changeover switch SW1, SW2, and SW3 according to the control signal from the IYAMAiku assembly control section 71 of portable telephone set 7' according to another device concerning an embodiment of the invention, ON/OFF of each informing means of mail arrival information unit 3' of an IYAMAiku assembly can be set up from the key input section of a portable telephone set 7' main part, and it is effective in the ability to raise user-friendliness compared with changing a small switch manually.

[0034]

[Effect of the Invention]According to this invention, it is an IYAMAiku assembly which is provided with an earphone and an earphone type microphone and is connected with a telephone set body via a signal wire, Since it is considered as the IYAMAiku assembly which equipped the signal wire with the mail arrival information unit which performs either or all the

mail arrival informing operation of singing, luminescence, and vibration according to setting out when the mode of mail arrival informing operation is set up beforehand and a terminating signal is inputted, Even if the user is not always inserting the earphone in an ear under the environment of high noise, can recognize mail arrival easily and certainly, and. Even if mail arrival can be answered promptly, it can talk over the telephone and it does not have the mechanism still more nearly special to a telephone set body or required accessories, it is effective in the ability to use for a common portable telephone set widely.

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TECHNICAL FIELD

[Field of the Invention]This invention can relate to the IYAMAiku assembly used for personal digital assistants, such as a portable telephone and PHS, especially can make mail arrival recognize certainly also in a high noise state, and relates to an IYAMAiku assembly applicable to a common portable telephone set.

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PRIOR ART

[Description of the Prior Art]The IYAMAiku assembly for the conventional personal digital assistants is provided with the earphone type microphone which acquires and outputs a transmitted signal from vibration of ****, and the earphone which outputs a receiver voice, and even if it does not hold a telephone set body by hand by connecting and using for the main part of a portable telephone set at the time of a telephone call, it ends.

[0003]When the IYAMAiku assembly is being used, in order that a user may recognize mail arrival by the ringer tone from an earphone, and the ringer tone from the sounder of a telephone set body, there is a user in the state which has always inserted the earphone in an ear in many cases.

[0004]However, since he felt displeasure at some persons keeping an earphone inserted, such a person removes and uses an earphone and was made to judge mail arrival by blink of the incoming lamp (LED) formed in the ringer tone and main part from a sounder of the telephone set body.

[0005]As an informing device of the separate type which reports the arrival in the conventional portable telephone set, there is open JP,9-84141,A "incoming call appearance device" (applicant: Casio Computer Co., Ltd., artificer:Kazunori Kita) on March 28, Heisei 9. The mail arrival reporting signal transmitter inserted in the earphone microphone terminal of a cellular phone detects a terminating signal, and this conventional technology creates a mail arrival reporting signal, It transmits to a card shape arrival reporting signal receiver or a list-directed arrival reporting signal receiver on radio, and if each receiver receives this mail arrival reporting signal, vibration and a voice response buzzer will report mail arrival. The arrival of a portable telephone can be reported certainly, without making others trouble.

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EFFECT OF THE INVENTION

[Effect of the Invention]It is an IYAMAiku assembly which is provided with an earphone and an earphone type microphone and is connected with a telephone set body via a signal wire in this invention, When the mode of mail arrival informing operation is set up beforehand and a terminating signal is inputted, it is considered as the IYAMAiku assembly which equipped the signal wire with the mail arrival information unit which performs either or all the mail arrival informing operation of singing, luminescence, and vibration according to setting out. Therefore, even if the user is not always inserting the earphone in an ear under the environment of high noise, can recognize mail arrival easily and certainly, and. Even if mail arrival can be answered promptly, it can talk over the telephone and it does not have the mechanism still more nearly special to a telephone set body or required accessories, it is effective in the ability to use for a common portable telephone set widely.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention]However, in the conventional IYAMA I KU assembly. When there is no function to report mail arrival, in addition to the ringer tone from an earphone and the noise of a factory etc. removed and uses an earphone at a large place, The ringer tone from a sounder could not be heard easily, and when the telephone set body was put into the pocket or was carried on the waist, blink of the incoming lamp was not visible easily, either, and there was a problem that he might not notice mail arrival.

[0007]In the incoming call appearance device of the conventional separate type, there was a problem that the special mechanism for transmitting a signal was required for a separate type reporting part as parts linked to a telephone set body or telephone, and it was not a thing widely applicable to a common portable telephone set.

[0008]An object of this invention is to provide the IYAMA I KU assembly which it succeeded in view of the above-mentioned actual condition, can be made to recognize mail arrival certainly even if it has removed the earphone in a high noise state, and can be applied to a common portable telephone set.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1]It is an explanatory view showing the mounting state of the IYAMAiku assembly concerning an embodiment of the invention, and this IYAMAiku assembly.

[Drawing 2]It is a configuration block figure of the IYAMAiku assembly (this device) concerning an embodiment of the invention.

[Drawing 3]It is a configuration block figure showing the composition of the IYAMAiku assembly (another device) concerning another embodiment of this invention.

[Description of Notations]

1 [-- A connector area, 7 / -- A portable telephone set and 11 / -- A receiver signal line and 12 / -- A transmitted signal line and 13 / -- The control line and 31 / -- A sounder and 32 / -- An incoming lamp and 33 / -- Vibrator and 71 / -- IYAMAiku assembly control section] -- An earphone and 2 -- A microphone and 3 -- A mail arrival information unit and 6

[Translation done.]

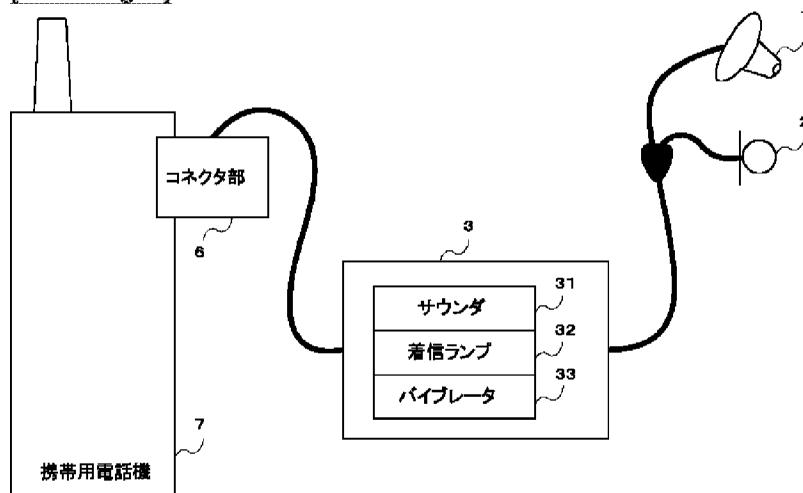
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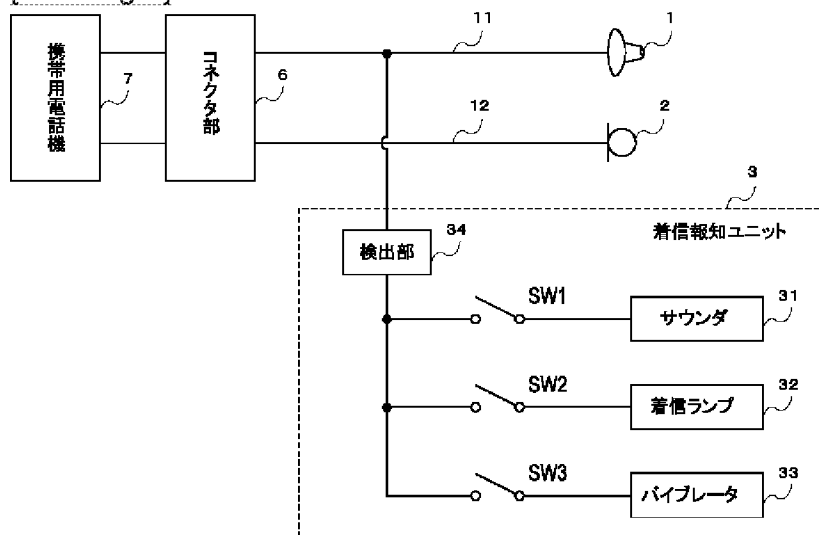
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DRAWINGS

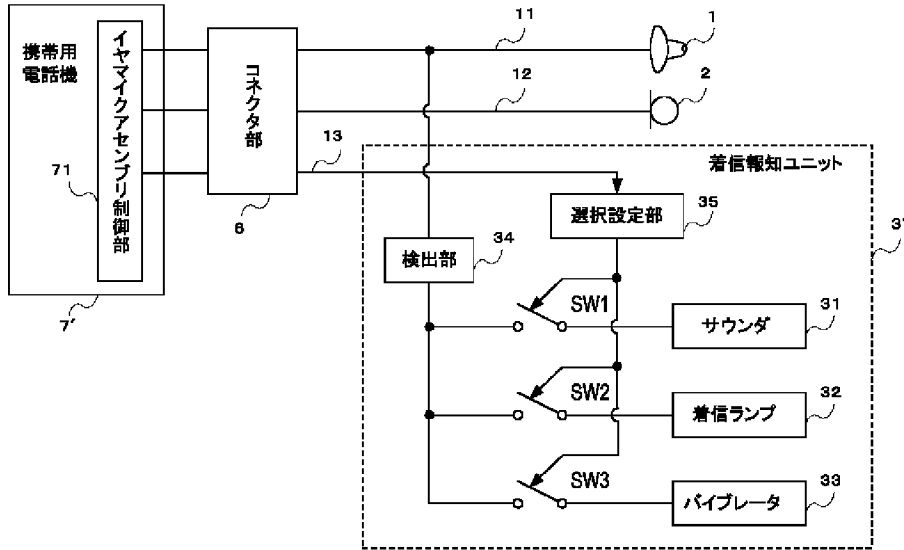
[Drawing 1]



[Drawing 2]



[Drawing 3]



[Translation done.]